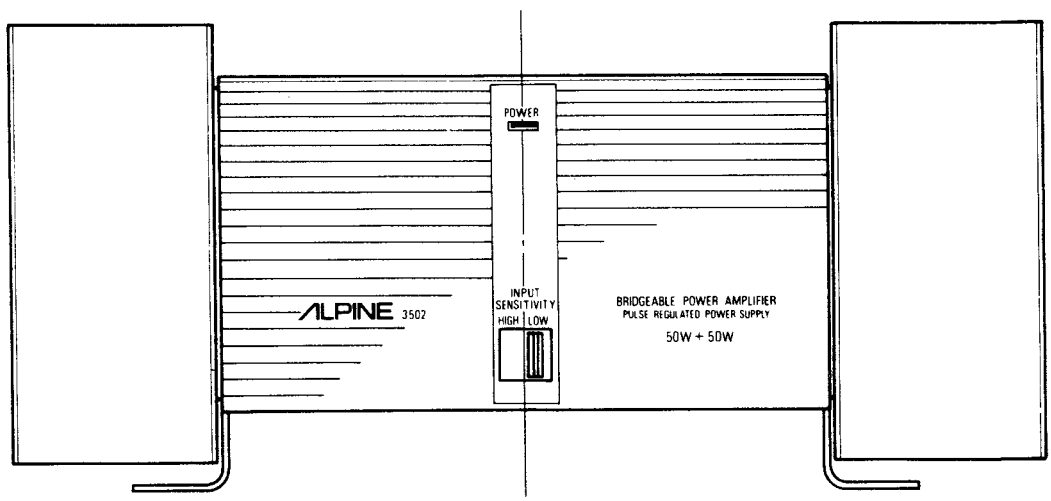
ALPINE SERVICE MANUAL

Bridgeable
Power Amplifier



3502 CODE 02

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Specifications

Maximum Power 1 kHz both channels driven (at T.H.D. 0.1% 4-ohm load) ..... 55 W
R.M.S. Power 20 Hz–20 kHz both channels driven (at T.H.D 0.08%, 4-ohm load) ..... 50 W
B.T.L. Output Power 1 kHz (at T.H.D. 0.1% 4-ohm load) ..... 100 W
T.H.D. 20 Hz–20 kHz (at output power of 50 W, 4-ohm load) ..... 0.08 %
Frequency Response (at output power of 1 W, 4-ohm load) –3 dB
(High) ..... 20 Hz–70 kHz
(Low) ..... 20 Hz–40 kHz
Input Sensitivity (at 50 W, 4-ohm load)
(High) ..... 500 mV ±1 dB
(Low) ..... 1,000 mV ±1 dB
Input Impedance
(High) ..... 10k ±2k ohms
(Low) ..... 20k ±2k ohms
Damping Factor 40
Signal to Noise Ratio (input short, IHF A-Weighted) ..... 85 dB
Channel Separation (at 1 kHz) ..... 65 dB
Residual Noise ..... 0.8 mV
Load Impedance ..... 4 ohms
Power Source ..... DC 14.4 V (11 ~ 16 V allowable)
Dimensions (W × H × D) ..... 200 × 90 × 250 mm
Weight ..... 3.4 kg
Semiconductors ..... 48 Transistors, 2 FETs, 23 Diodes,
6 Zener Diodes, 2 Varistors

Parts Locations and Disassembly Instructions

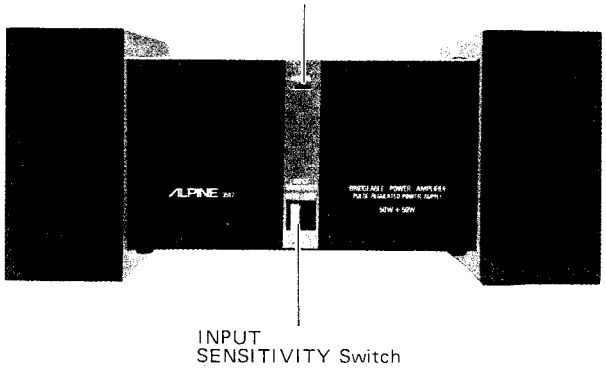


Figure 1

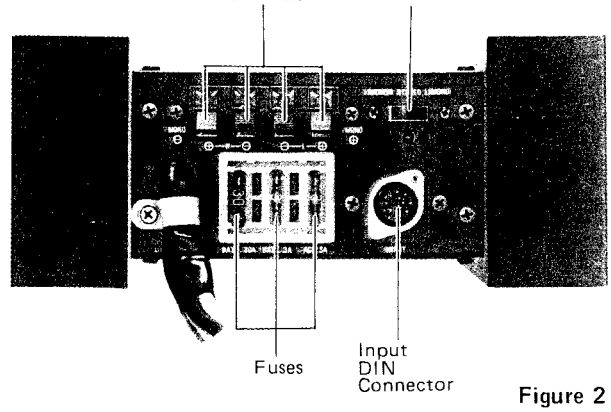


Figure 2

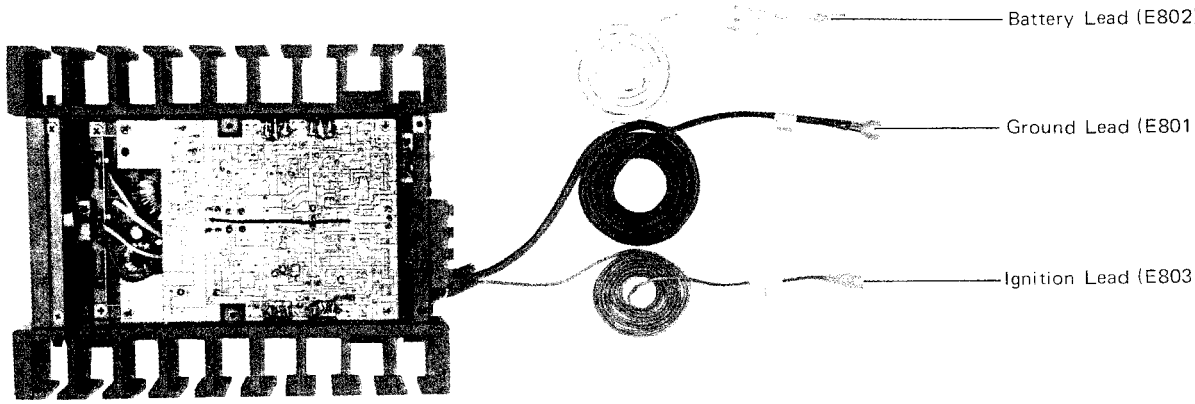


Figure 3

1. Removal of Top Cover

(1) Remove six screws marked "○" in Figure 4.

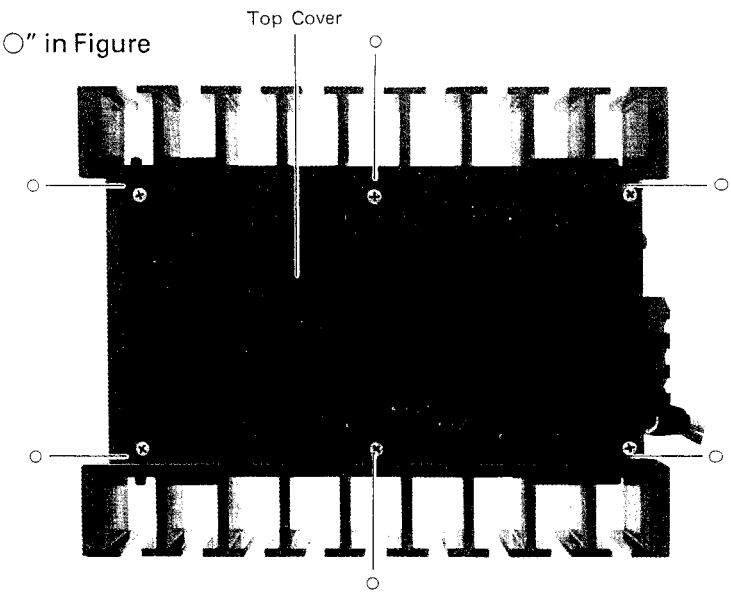


Figure 4

2. Removal of Bottom Cover

(1) Remove six screws marked "△" in Figure 5.

3. Removal of Front Panel

(1) After removal of top cover and bottom cover, remove the connector of LED.

4. Removal of Sensitivity Sw. P.C.B.

(1) After removal of bottom cover and front panel, remove two screws marked "□" in Figure 7.
(2) Disconnect all wires from the Sw. P.C.B.

5. Removal of Rear Cover

(1) After removal of top cover and bottom cover, remove ten screws marked "☆" in Figure 7.
(2) Disconnect all wires from the fuse holder.
(3) Remove the Rear Cover.

6. Removal of Main Amp P.C.B. with FET P.C.B.

(1) After removal of top cover, remove four screws marked "★" in Figure 6.
(2) Remove four solders (a) as shown in Figure 6.
(3) Disconnect all wires from Main Amp P.C.B.
(4) Remove two solders (b) as shown in Figure 6.
(5) Remove the FET P.C.B.

7. Removal of Power Supply P.C.B.

(1) After removal of bottom cover, remove solder (c) as shown in Figure 7.
(2) Remove four screws marked "◇" in Figure 7.
(3) Remove six solders (d) as shown in Figure 7.
(4) Disconnect all wires from the P.C.B.

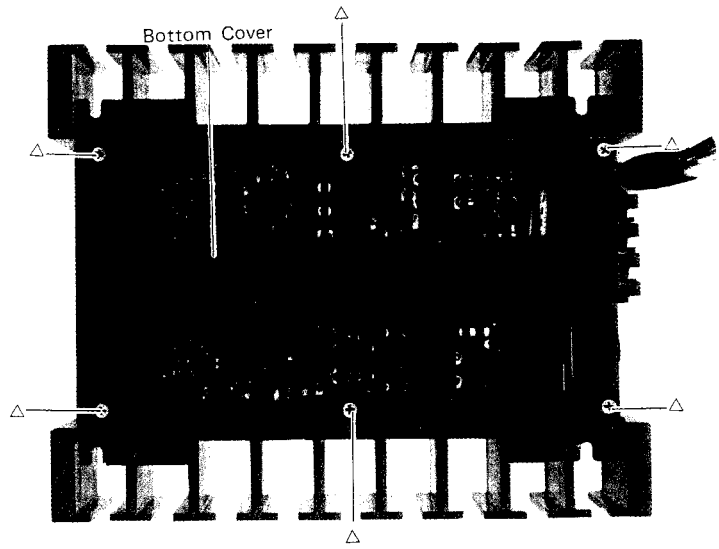


Figure 5

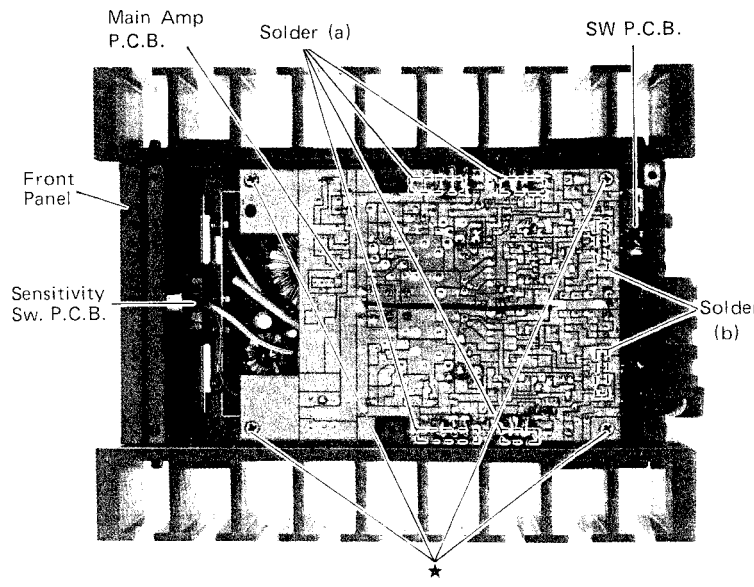


Figure 6

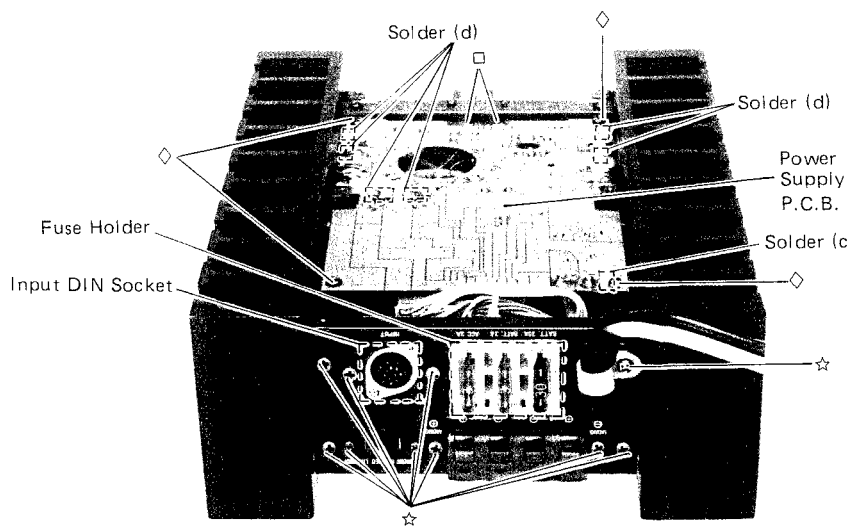


Figure 7

Adjustment Procedures

• Power Supply Voltage Adjustment

(1) Connections

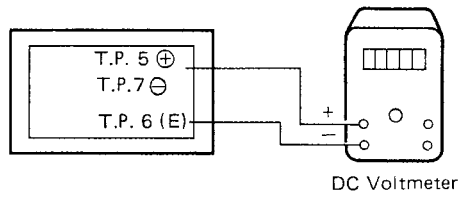


Figure 8

(2) Adjustment Procedures

Adjust solid-state variable resistor VR801 to obtain +28.25 ±0.25V (between T.P. 5 and T.P. 6) on the DC voltmeter, and at the same time to obtain −28.25 ±0.25 V (between T.P. 7 and T.P. 6) on the DC voltmeter.

• Idle Current Adjustment

(1) Connections

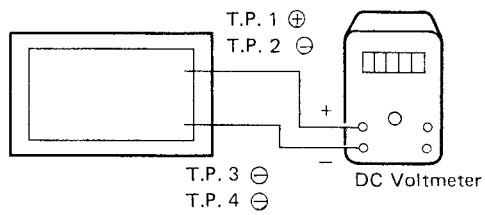


Figure 9

(2) Adjustment Procedures

Adjust the solid-state variable resistor VR103 to obtain 3 mV (between T.P. 1 and T.P. 3) on the DC voltmeter. In the same manner, adjust the VR104 to also obtain 3 mV (between T.P. 2 and T.P. 4) on the DC voltmeter. When rotating the variable resistor counterclockwise, the idle current increases.

• Idle current = 3 (mV) ÷ 0.2 (ohm) = 15 (mA)

• Offset Voltage Adjustment

(1) Connections

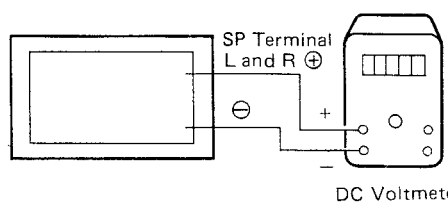


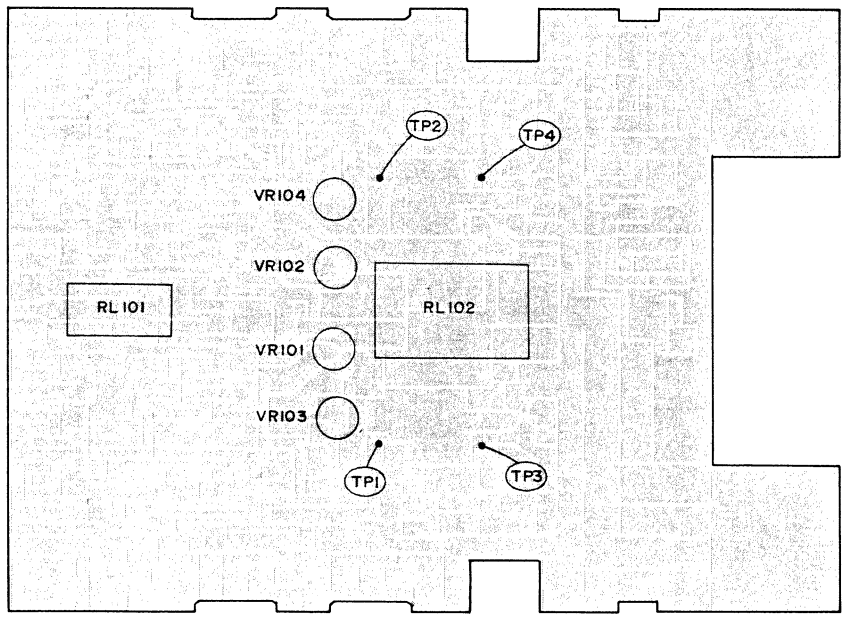
Figure 10

(2) Adjustment Procedures

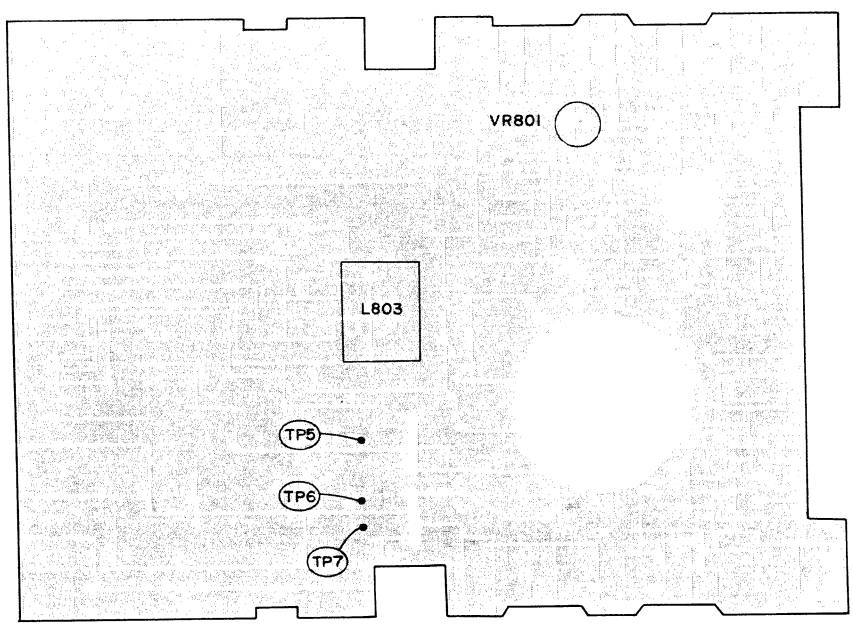
Adjust the solid-state variable resistor VR101 to obtain 0±3 mV at L channel S.P. terminal (⊕, ⊖) on the DC voltmeter. In the same manner, adjust the VR102 to obtain 0±3 mV at R channel S.P. terminal (⊕, ⊖) on the DC voltmeter.

Adjustment Locations

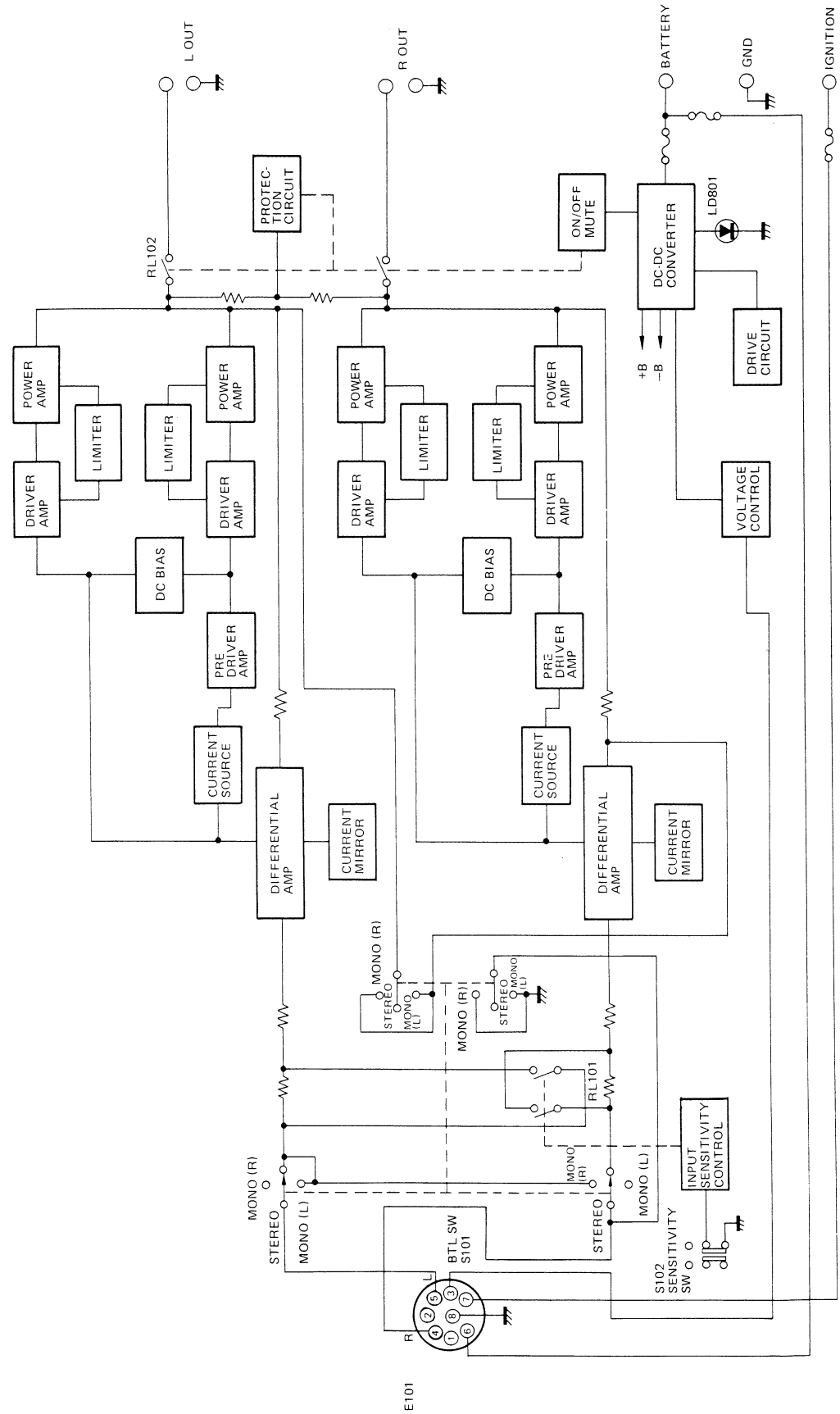
Main Amp P.C. Board (Top View)



Power Supply P.C. Board (Top View)



Block Diagram



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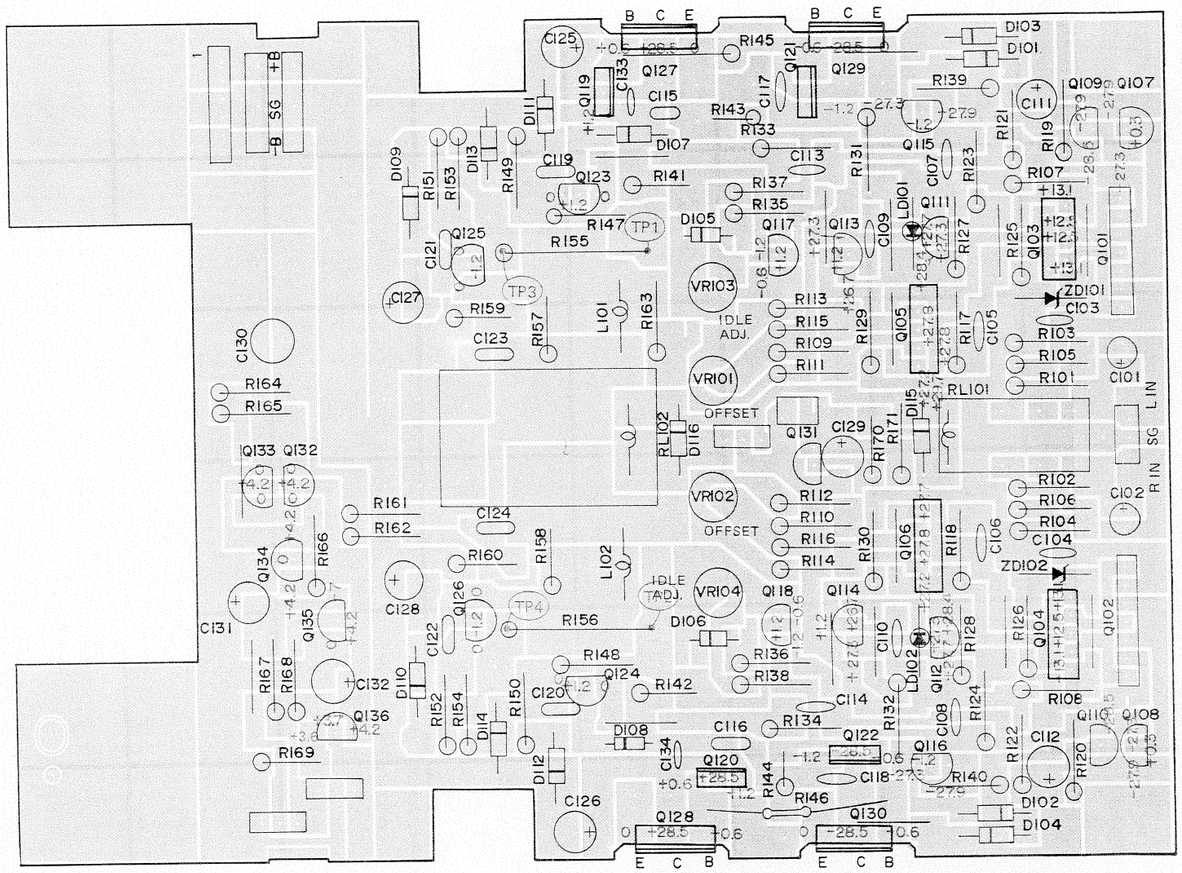
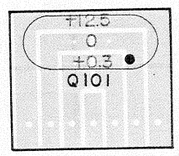
Parts Layout on P.C. Boards

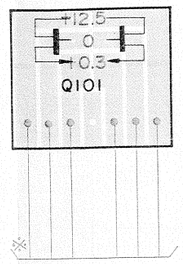
- Main Amp P.C. Board

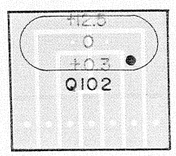


Top View

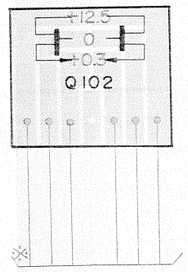
- FET P.C. Board



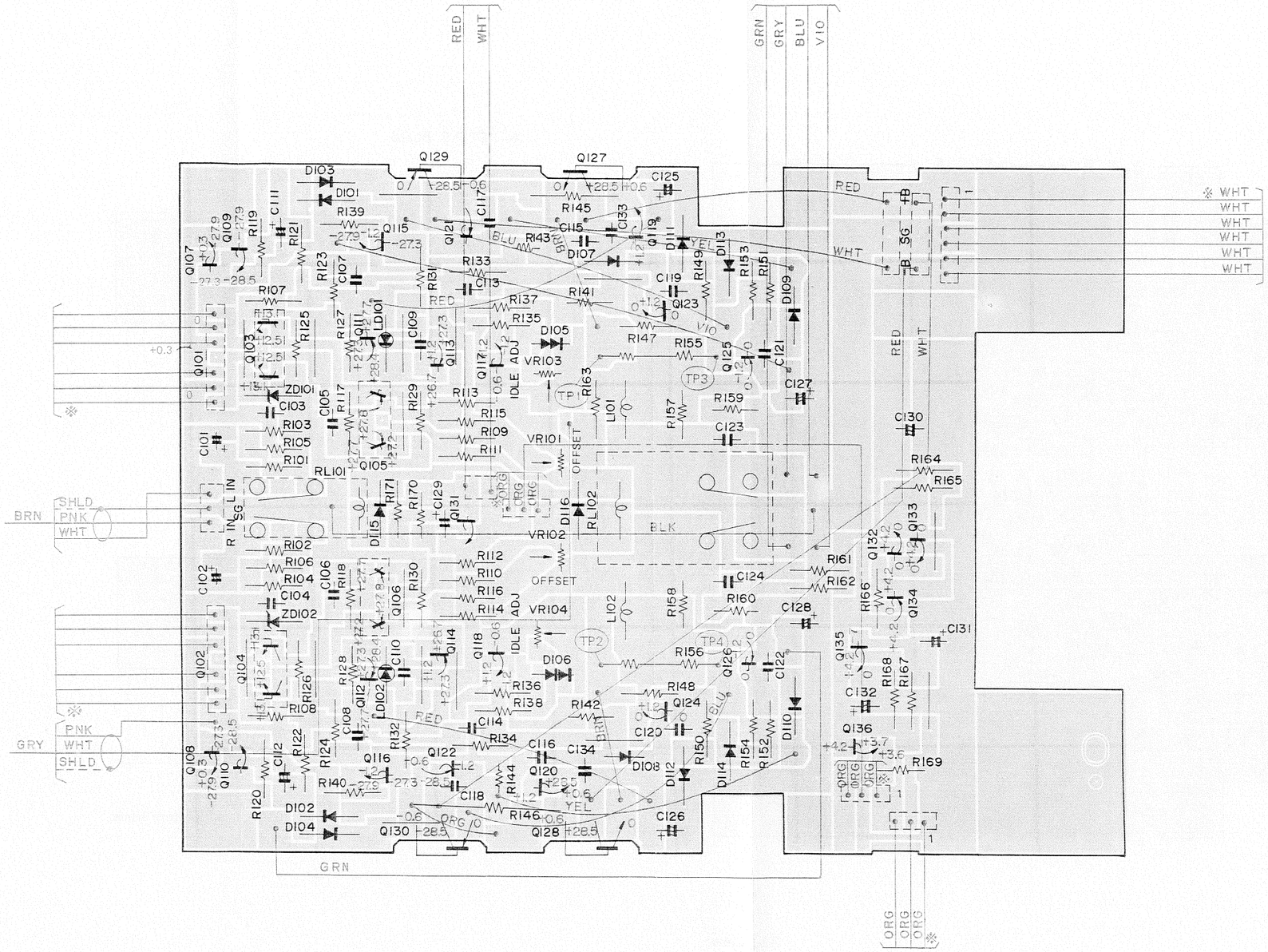




Top View



Bottom View


RED
WHT
GRN
GRY
BLU
VIO
Q129
Q127
D103
D101
C125
R139
R145
Q115
Q121
C117
C133
R143
C115
Q119
D111
D113
D107
R149
R153
R151
D109
C119
R133
C113
R141
R137
R135
Q123
R147
R155
D105
VR103
C121
C127
R107
R123
C107
R131
R127
C111
LD101
C109
Q117
Q113
Q125
TP3
R163
R157
R159
C123
C130
R164
R165
Q101
Q103
R125
ZD101
C103
C105
R117
R129
R113
R115
R109
R111
VR101
OFFSET
L101
C101
R103
R105
R101
RL101
Q105
SHLD
BRN
PNK
WHT
R IN
SG
L IN
R171
R170
C129
Q131
D115
D116
RL102
BLK
R102
R106
R104
C102
C106
R118
R130
R112
R110
R116
R114
VR102
VR104
ADJ
IDLE
OFFSET
C104
ZD102
Q106
L102
R158
C124
R161
R162
Q132
Q133
R166
Q134
C128
C131
Q102
Q104
R126
R128
C110
Q112
D102
Q118
TP2
TP4
R156
Q126
C122
Q135
R168
R167
R136
R138
R142
R148
Q124
C132
C108
C114
R134
R132
C120
Q136
R169
PNK
GRY
WHT
SHLD
Q108
Q110
C112
R122
R124
Q116
Q122
C116
C134
D108
R150
R154
R152
D110
D112
D114
R120
R140
Q120
R144
C118
R146
Q130
Q128
C126
D102
D104
ORG
GRN
WHT
BLU
YEL
BRN
RED
TB
SG
1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
G
H
I
J
K
L
M
N

Bottom View

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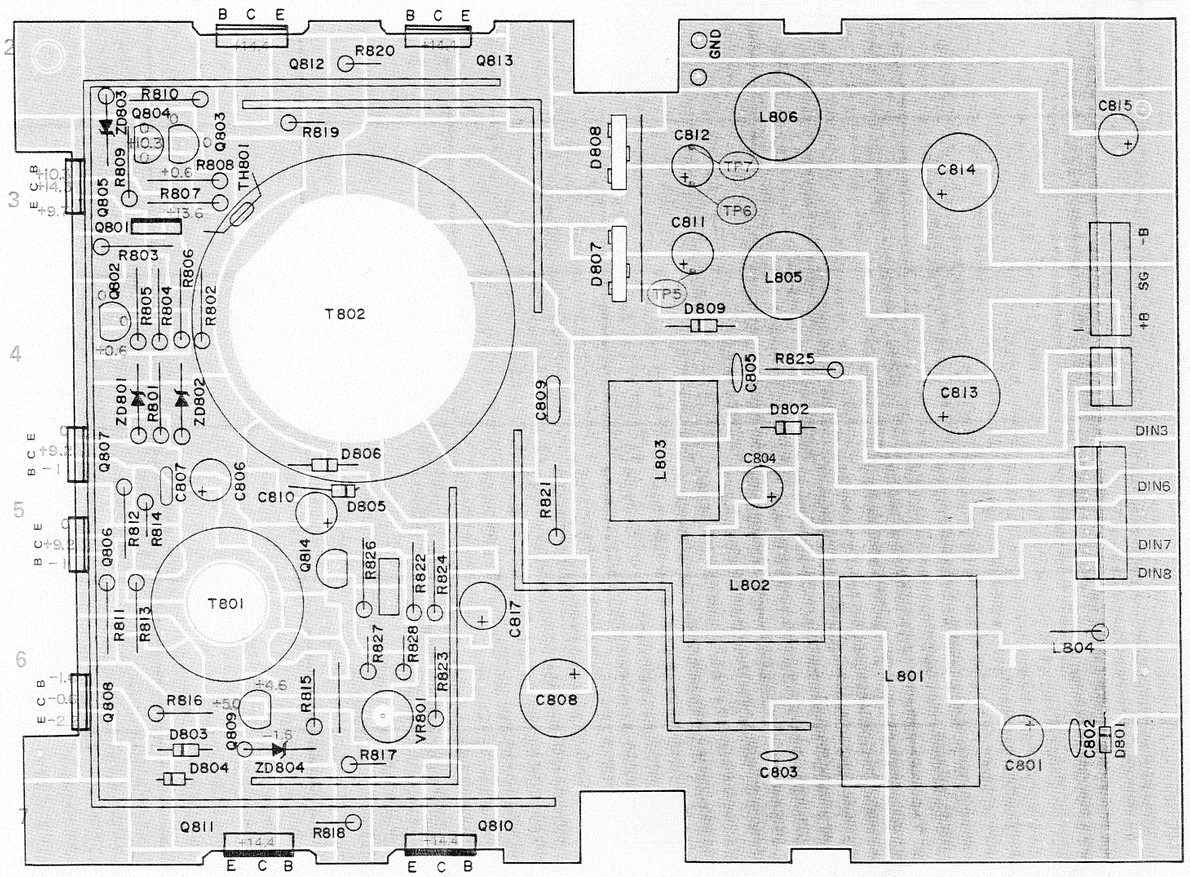
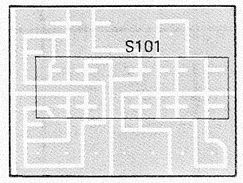
CODE02

- Power Supply P.C. Board

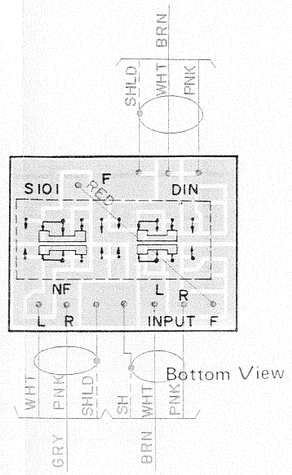


Top View

- BTL SW P.C. Board

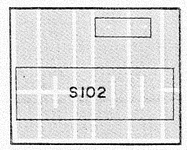


Top View

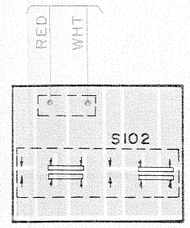


Bottom View

- SENSITIVITY SW P.C. Board

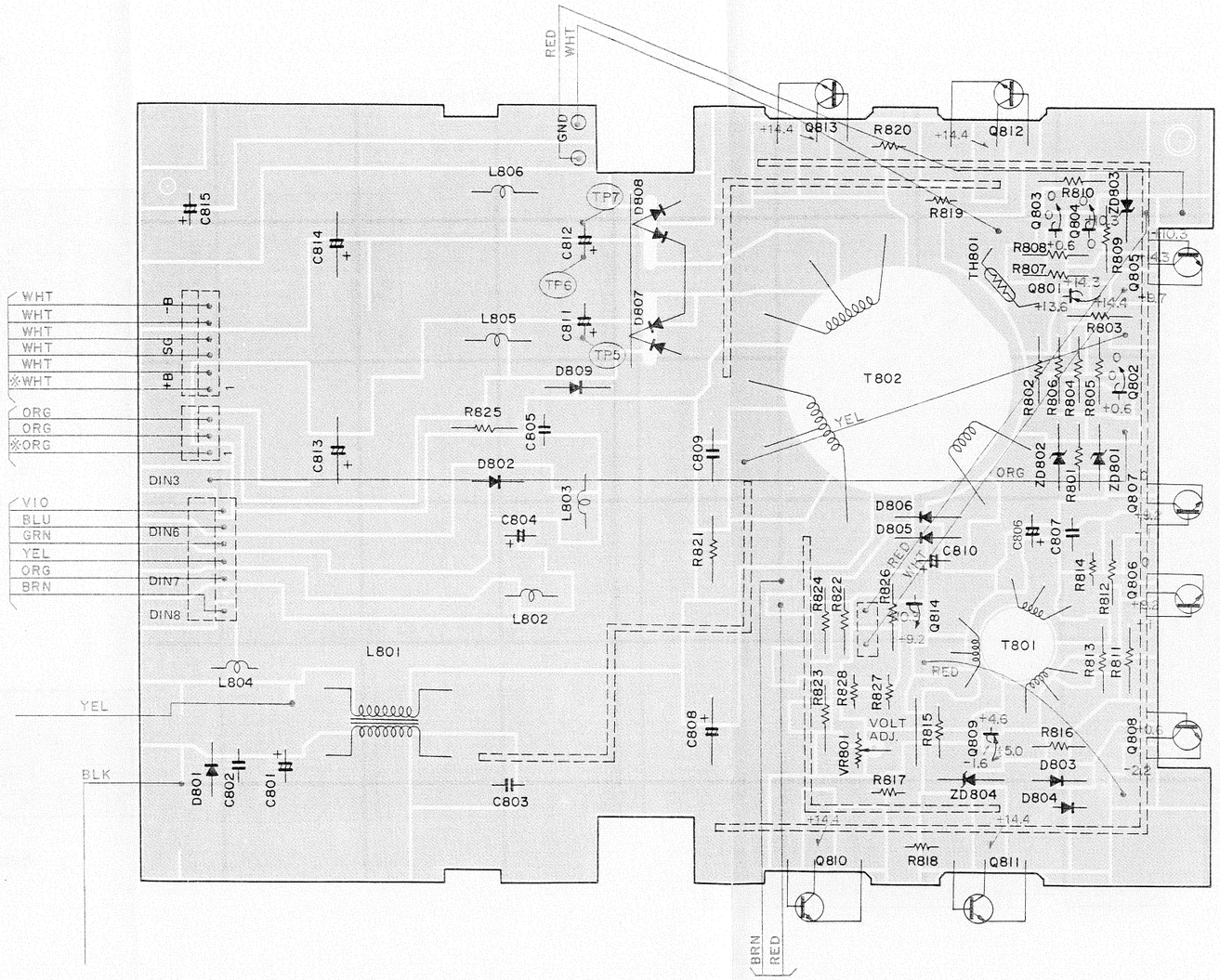


Top View



Bottom View

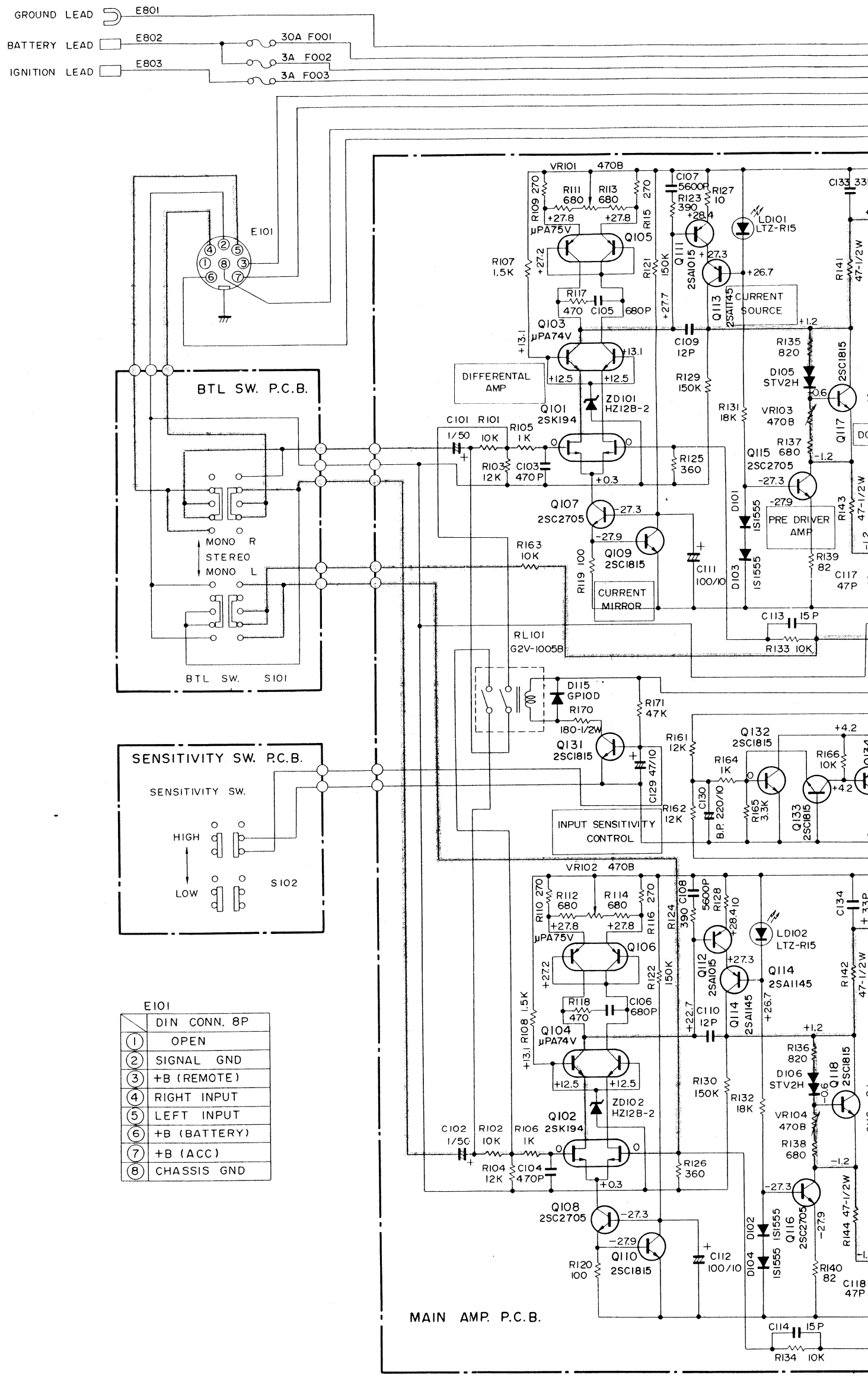
A B C D E F G H I J K L M N


RED
WHT
GND
L806
C815
C814
C812
TP7
TP6
TP5
D808
D807
D809
L805
C811
C813
R825
C805
D802
C809
C804
L803
R821
L802
L801
L804
C808
C803
D801
C802
C801
WHT
WHT
WHT
WHT
WHT
※WHT
-B
SG
+B
ORG
ORG
※ORG
DIN3
VIO
BLU
GRN
YEL
ORG
BRN
DIN6
DIN7
DIN8
YEL
BLK
Q813
R820
Q812
+14.4
R819
TH801
R808
R807
Q801
+13.6
+14.3
R810
Q803
Q804
ZD803
R809
Q805
R803
T802
R802
R806
R804
R805
Q802
ZD802
R801
ZD801
Q807
ORG
YEL
D806
D805
C810
C806
C807
R814
R812
Q806
RED
WHT
R826
Q814
+9.2
T801
R824
R822
R823
R828
R827
R813
R811
Q808
VOLT
ADJ.
VR801
R815
Q809
+4.6
+5.0
-1.6
R816
D803
R817
ZD804
D804
+14.4
+14.4
Q810
R818
Q811
BRN
RED

Bottom View

Schematic Diagram

Transistor	Q105 Q103 Q101 Q107 Q109 Q106 Q131 Q104 Q102 Q108 Q110 Q111 Q113 Q115 Q117 Q132 Q112 Q133 Q134 Q114 Q116 Q118
Diode	ZD101 D115 ZD102 LD101 D101 D105 D103 LD102 D106 D102 D104



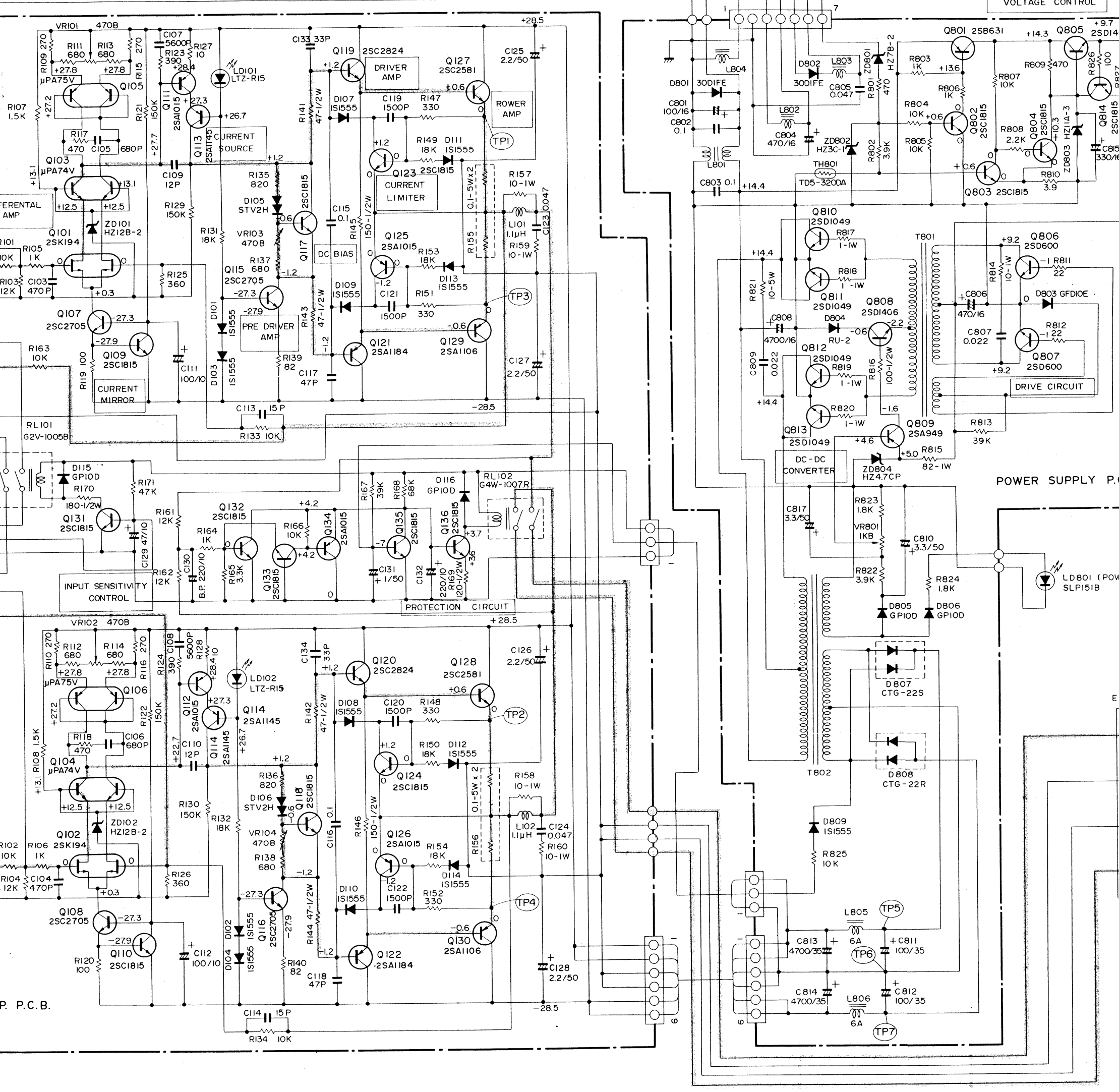
NOTE:
UNLESS OTHERWISE SPECIFIED,
1. ALL RESISTANCE VALUES ARE IN OHMS K=1,000 M=1,000,000
2. ALL RESISTORS ARE RATED AT 1/4 WATT, 5%
3. ALL CAPACITANCE VALUES ARE IN MICRO-FARAD (μF) P=10 ^{6}μF
4. ALL CAPACITORS ARE RATED AT 500WV

E101

	DIN CONN. 8P
1	OPEN
2	SIGNAL GND
3	+B (REMOTE)
4	RIGHT INPUT
5	LEFT INPUT
6	+B (BATTERY)
7	+B (ACC)
8	CHASSIS GND

Q105 Q111 Q119 Q801 Q805
Q103 Q113 Q115 Q117 Q123 Q127 Q810 Q802 Q814
Q101 Q107 Q109 Q132 Q125 Q129 Q811 Q808 Q803 Q804
Q106 Q131 Q112 Q133 Q134 Q121 Q135 Q136 Q812 Q809 Q806
Q104 Q114 Q116 Q118 Q120 Q124 Q128 Q813 Q807
Q102 Q108 Q110 Q122 Q126 Q130

LD101 D107 D111 D801 D802 ZD801
Z D101 D101 D105 D109 D113 ZD802 ZD803
D115 D103 D116 ZD804 D803
LD102 D106 D108 D112 D805 D806
Z D102 D102 D110 D114 D807
D104 D809 D808 LD801



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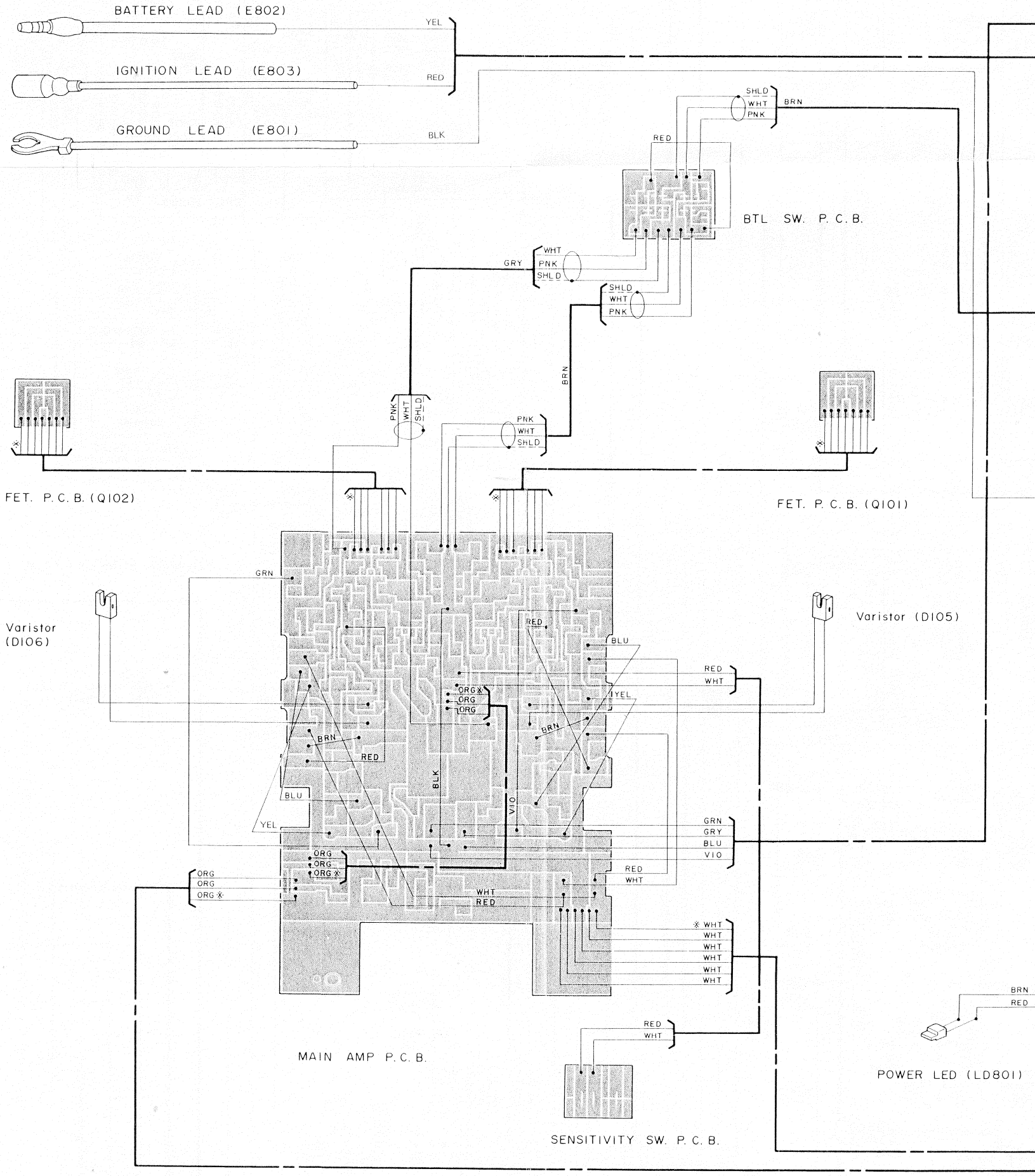
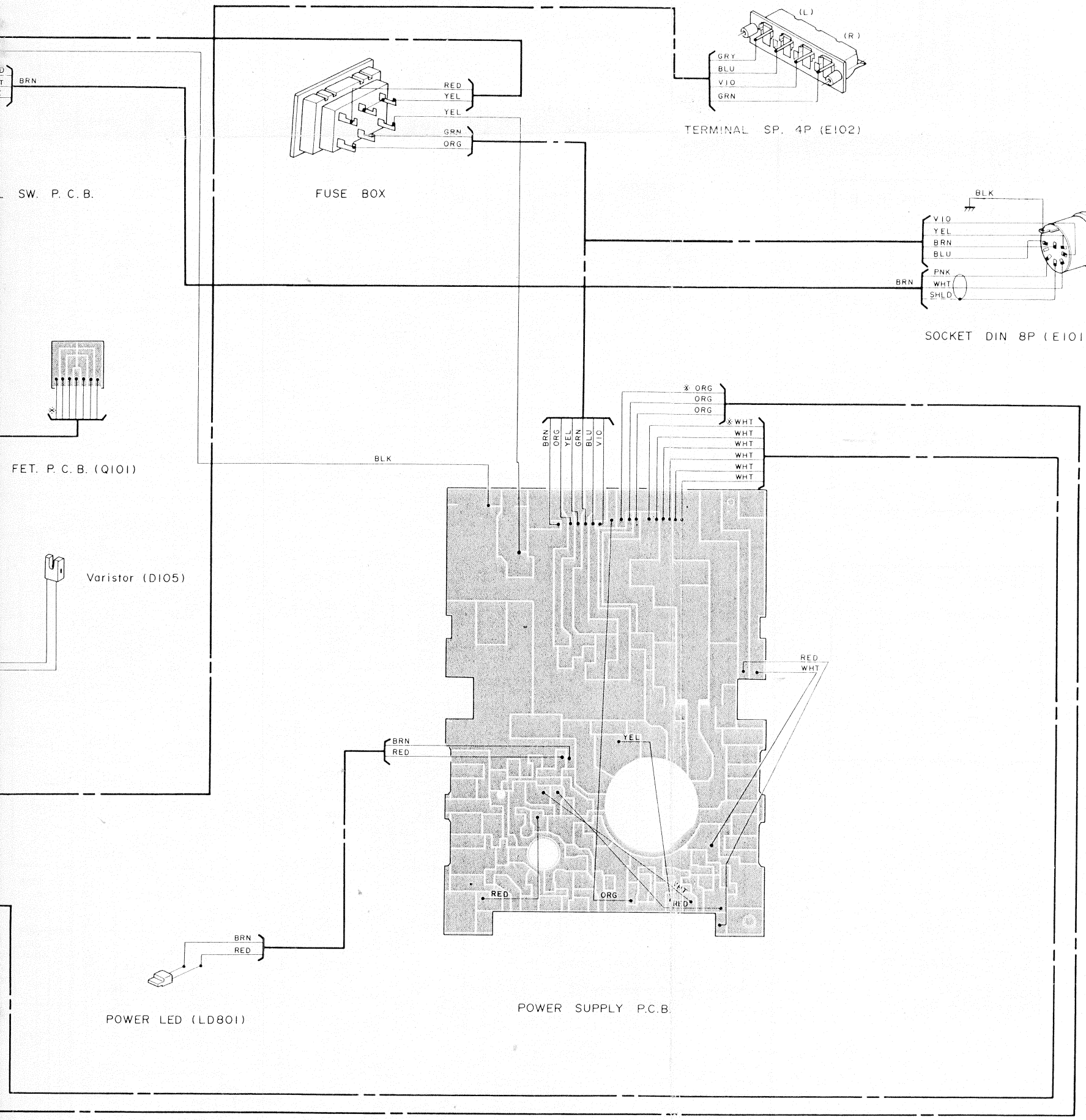
Wiring Diagram




(L)
(R)
GRY
BLU
VIO
GRN
TERMINAL SP. 4P (E102)
RED
YEL
YEL
GRN
ORG
FUSE BOX
SW. P. C. B.
BRN
BLK
VIO
YEL
BRN
PNK
WHT
SHLD
SOCKET DIN 8P (E101)
FET. P. C. B. (Q101)
Varistor (D105)
BRN ORG YEL GRN BLU VIO
X ORG
ORG
ORG
X WHT
WHT
WHT
WHT
WHT
WHT
RED
WHT
BRN
RED
YEL
RED
ORG
RED
BRN
RED
POWER LED (LD801)
POWER SUPPLY P.C.B.

Electrical Parts List

Resistors: (All resistors are carbon film, ±5% unless otherwise noted.)
μF = microfarads, pF = picofarads.

Symbol No.	Part No.	Description
Main Amp P.C. Board		
Transistors		
Q103	48T61580F01	μPA74V
Q104	48T61580F01	μPA74V
Q105	48T61581F01	μPA75V
Q106	48T61581F01	μPA75V
Q107	48T60752F01	2SC2705
Q108	48T60752F01	2SC2705
Q109	48S43525F02	2SC1815
or	48S44578J01	2SC945L
Q110	48S43525F02	2SC1815
or	48S44578J01	2SC945L
Q111	48T51118F01	2SA1015
or	48T40081T03	2SA733
Q112	48T51118F01	2SA1015
or	48T40081T03	2SA733
Q113	48T60751F01	2SA1145
Q114	48T60751F01	2SA1145
Q115	48T60752F01	2SC2705
Q116	48T60752F01	2SC2705
Q117	48S43525F02	2SC1815
or	48S44578J01	2SC945L
Q118	48S43525F02	2SC1815
or	48S44578J01	2SC945L
Q119	48T56660F03	2SC2824
Q120	48T56660F03	2SC2824
Q121	48T56659F03	2SA1184
Q122	48T56659F03	2SA1184
Q123	48S43525F02	2SC1815
or	48S44578J01	2SC945L
Q124	48S43525F02	2SC1815
or	48S44578J01	2SC945L
Q125	48T51118F01	2SA1015
or	48T40081T03	2SA733
Q126	48T51118F01	2SA1015
or	48T40081T03	2SA733
Q131	48S43525F02	2SC1815
or	48S44578J01	2SC945L
Q132	48S43525F02	2SC1815
or	48S44578J01	2SC945L
Q133	48S43525F02	2SC1815
or	48S44578J01	2SC945L
Q134	48T51118F01	2SA1015
or	48T40081T03	2SA733
Q135	48S43525F02	2SC1815
or	48S44578J01	2SC945L
Q136	48S43525F02	2SC1815
or	48S44578J01	2SC945L
Diodes		
D101	48T43189F01	1S1555
D102	48T43189F01	1S1555
D103	48T43189F01	1S1555
D104	48T43189F01	1S1555
D107	48T43189F01	1S1555
D108	48T43189F01	1S1555
D109	48T43189F01	1S1555
D110	48T43189F01	1S1555
D111	48T43189F01	1S1555
D112	48T43189F01	1S1555
D113	48T43189F01	1S1555
D114	48T43189F01	1S1555
D115	48T55186F01	GP10D
D116	48T55186F01	GP10D
ZD101	48T52739F74	Zener HZ12B-2
ZD102	48T52739F74	Zener HZ12B-2
LEDs		
LD101	48T60971F01	LTZ-R15
LD102	48T60971F01	LTZ-R15
Coils		
L101	24T51105F02	Choke 1.1 μH
L102	24T51105F02	Choke 1.1 μH
Relays		
RL101	80T61577F01	G2V-1005B
RL102	80T61578F01	G4W-1007R
Capacitors		
C101	23T44501P05	Electrolytic 1μF 50V
C102	23T44501P05	Electrolytic 1μF 50V
C103	21S40655F30	Ceramic 470pF
C104	21S40655F30	Ceramic 470pF
C105	21S40655F32	Ceramic 680pF
C106	21S40655F32	Ceramic 680pF
C107	08T40794F10	Ceramic 5600pF
C108	08T40794F10	Ceramic 5600pF
C109	21S40655F12	Ceramic 12pF
C110	21S40655F12	Ceramic 12pF

Symbol No.	Part No.	Description
C111	23S40657F08	Electrolytic 100μF 10V
C112	23S40657F08	Electrolytic 100μF 10V
C113	21S40655F13	Ceramic 15pF
C114	21S40655F13	Ceramic 15pF
C115	08T57705F79	Mylar 0.1μF
C116	08T57705F79	Mylar 0.1μF
C117	21S40655F19	Ceramic 47pF
C118	21S40655F19	Ceramic 47pF
C119	08T57705F07	Mylar 1500pF
C120	08T57705F07	Mylar 1500pF
C121	08T57705F07	Mylar 1500pF
C122	08T57705F07	Mylar 1500pF
C123	08T57705F75	Mylar 0.047μF
C124	08T57705F75	Mylar 0.047μF
C125	23S40657F29	Electrolytic 2.2μF 50V
C126	23S40657F29	Electrolytic 2.2μF 50V
C127	23S40657F29	Electrolytic 2.2μF 50V
C128	23S40657F29	Electrolytic 2.2μF 50V
C129	23S40657F07	Electrolytic 47μF 10V
C130	23S41192U79	Electrolytic B.P. 220μF 10V
C131	23S40657F28	Electrolytic 1μF 50V
C132	23S40657F09	Electrolytic 220μF 10V
C133	21C45322G16	Ceramic 33pF
C134	21C45322G16	Ceramic 33pF

Resistors

VR101	18C41732G10	470 ohm-B	Variable
VR102	18C41732G10	470 ohm-B	Variable
VR103	18C41732G10	470 ohm-B	Variable
VR104	18C41732G10	470 ohm-B	Variable
R101	06S44593P89	10k ohm	1/4W
R102	06S44593P89	10k ohm	1/4W
R103	06S44593P91	12k ohm	1/4W
R104	06S44593P91	12k ohm	1/4W
R105	06S44593P65	1k ohm	1/4W
R106	06S44593P65	1k ohm	1/4W
R107	06S44593P69	1.5k ohm	1/4W
R108	06S44593P69	1.5k ohm	1/4W
R109	06S44593P51	270 ohm	1/4W
R110	06S44593P51	270 ohm	1/4W
R111	06S44593P61	680 ohm	1/4W
R112	06S44593P61	680 ohm	1/4W
R113	06S44593P61	680 ohm	1/4W
R114	06S44593P61	680 ohm	1/4W
R115	06S44593P51	270 ohm	1/4W

Symbol No.	Part No.	Description
R116	06S44593P51	270 ohm 1/4W
R117	06S44593P57	470 ohm 1/4W
R118	06S44593P57	470 ohm 1/4W
R119	06S44593P41	100 ohm 1/4W
R120	06S44593P41	100 ohm 1/4W
R121	06S44594P18	150k ohm 1/4W
R122	06S44594P18	150k ohm 1/4W
R123	06S44593P55	390 ohm 1/4W
R124	06S44593P55	390 ohm 1/4W
R125	06S44593P54	360 ohm 1/4W
R126	06S44593P54	360 ohm 1/4W
R127	06S44593P17	10 ohm 1/4W
R128	06S44593P17	10 ohm 1/4W
R129	06S44594P18	150k ohm 1/4W
R130	06S44594P18	150k ohm 1/4W
R131	06S44593P95	18k ohm 1/4W
R132	06S44593P95	18k ohm 1/4W
R133	06S44593P89	10k ohm 1/4W
R134	06S44593P89	10k ohm 1/4W
R135	06S44593P63	820 ohm 1/4W
R136	06S44593P63	820 ohm 1/4W
R137	06S44593P61	680 ohm 1/4W
R138	06S44593P61	680 ohm 1/4W
R139	06S44593P39	82 ohm 1/4W
R140	06S44593P39	82 ohm 1/4W
R141	06C43205J04	47 ohm Metal 1/2W
R142	06C43205J04	47 ohm Metal 1/2W
R143	06C43205J04	47 ohm Metal 1/2W
R144	06C43205J04	47 ohm Metal 1/2W
R145	06C43205J07	150 ohm Metal 1/2W
R146	06C43205J07	150 ohm Metal 1/2W
R147	06S44593P53	330 ohm 1/4W
R148	06S44593P53	330 ohm 1/4W
R149	06S44593P95	18k ohm 1/4W
R150	06S44593P95	18k ohm 1/4W
R151	06S44593P53	330 ohm 1/4W
R152	06S44593P53	330 ohm 1/4W
R153	06S44593P95	18k ohm 1/4W
R154	06S44593P95	18k ohm 1/4W
R155	06T51107F02	0.1 ohm Cement 5Wx2
R156	06T51107F02	0.1 ohm Cement 5Wx2
R157	06C44652G26	10 ohm Metal 1W
R158	06C44652G26	10 ohm Metal 1W
R159	06C44652G26	10 oHm Metal 1W
R160	06C44652G26	10 ohm Metal 1W

Symbol No.	Part No.	Description	
R161	06S44593P91	12k ohm	1/4W
R162	06S44593P91	12k ohm	1/4W
R163	06S44593P89	10k ohm	1/4W
R164	06S44593P65	1k ohm	1/4W
R165	06S44593P77	3.3k ohm	1/4W
R166	06S44593P89	10k ohm	1/4W
R167	06S44594P04	39k ohm	1/4W
R168	06S44594P10	68k ohm	1/4W
R169	06C43205J18	120 ohm Metal	1/2W
R170	06C43205J09	180 ohm Metal	1/2W
R171	06S44594P06	47k ohm	1/4W

Power Supply P.C. Board

Transistors

Q801	48T61617F01	2SB631
Q802	48S43525F02	2SC1815
or	48S44578J01	2SC945L
Q803	48S43525F02	2SC1815
or	48S44578J01	2SC945L
Q804	48S43525F02	2SC1815
or	48S44578J01	2SC945L
Q809	48T53298F01	2SA949
Q814	48S43525F02	2SC1815
or	48S44578J01	2SC945L

Diodes

D801	48S40870U02	30D1FE
D802	48S40870U02	30D1FE
D803	48T58593F01	GFD10E
D804	48T58615F01	RU-2
D805	48T55186F01	GP10D
D806	48T55186F01	GP10D
D809	48T43189F01	1S1555
ZD801	48T52739F47	Zener HZ7B-2
ZD802	48T52739F13	Zener HZ3C-1
ZD803	48T52739F63	Zener HZ11A-3
ZD804	48T55029F20	Zener HZ4.7CP

Thermistor

TH801	48T60670F01	20k ohm TD5-320DA

Symbol No.	Part No.	Description
Coils		
L801	25T61598F01	Choke, Trans.
L802	25C40894G11	Choke, Trans.
L803	25C40894G11	Choke, Trans.
L804	25T60908F01	Choke SN5-400
L805	25T58607F02	Choke 6A
L806	25T58607F02	Choke 6A
Transformers		
T801	25T61591F01	Drive Control
T802	25T61592F01	Main Control
Capacitors		
C801	23S40657F14	Electrolytic 100μF 16V
C802	08T57298F01	Ceramic 0.1μF
C803	08T57298F01	Ceramic 0.1μF
C804	23C42170G30	Electrolytic 470μF 16V
C805	21C45322G33	Ceramic 0.047μF
C806	23C42170G30	Electrolytic 470μF 16V
C807	08T57705F21	Mylar 0.022μF
C808	23T61589F01	Electrolytic 4700μF 16V
C809	08T58616F01	Mylar 0.022μF 400V
C810	23S40657F30	Electrolytic 3.3μF 50V
C811	23T58605F01	Electrolytic 100μF 35V
C812	23T58605F01	Electrolytic 100μF 35V
C813	23T61590F01	Electrolytic 4700μF 35V
C814	23T61590F01	Electrolytic 4700μF 35V
C815	23T43707U07	Electrolytic 330μF 16V
C817	23T57422F07	Electrolytic 3.3μF 50V
Resistors		
VR801	18C41732G07	1k ohm-B Variable
R801	06S44593P57	470 ohm 1/4W
R802	06S44593P79	3.9k ohm 1/4W
R803	06S44593P65	1k ohm 1/4W
R804	06S44593P89	10k ohm 1/4W
R805	06S44593P89	10k ohm 1/4W
R806	06S44593P65	1k ohm 1/4W
R807	06S44593P89	10k ohm 1/4W
R808	06S44593P73	2.2k ohm 1/4W
R809	06S44593P57	470 ohm 1/4W
R810	06S44593P07	3.9 ohm 1/4W

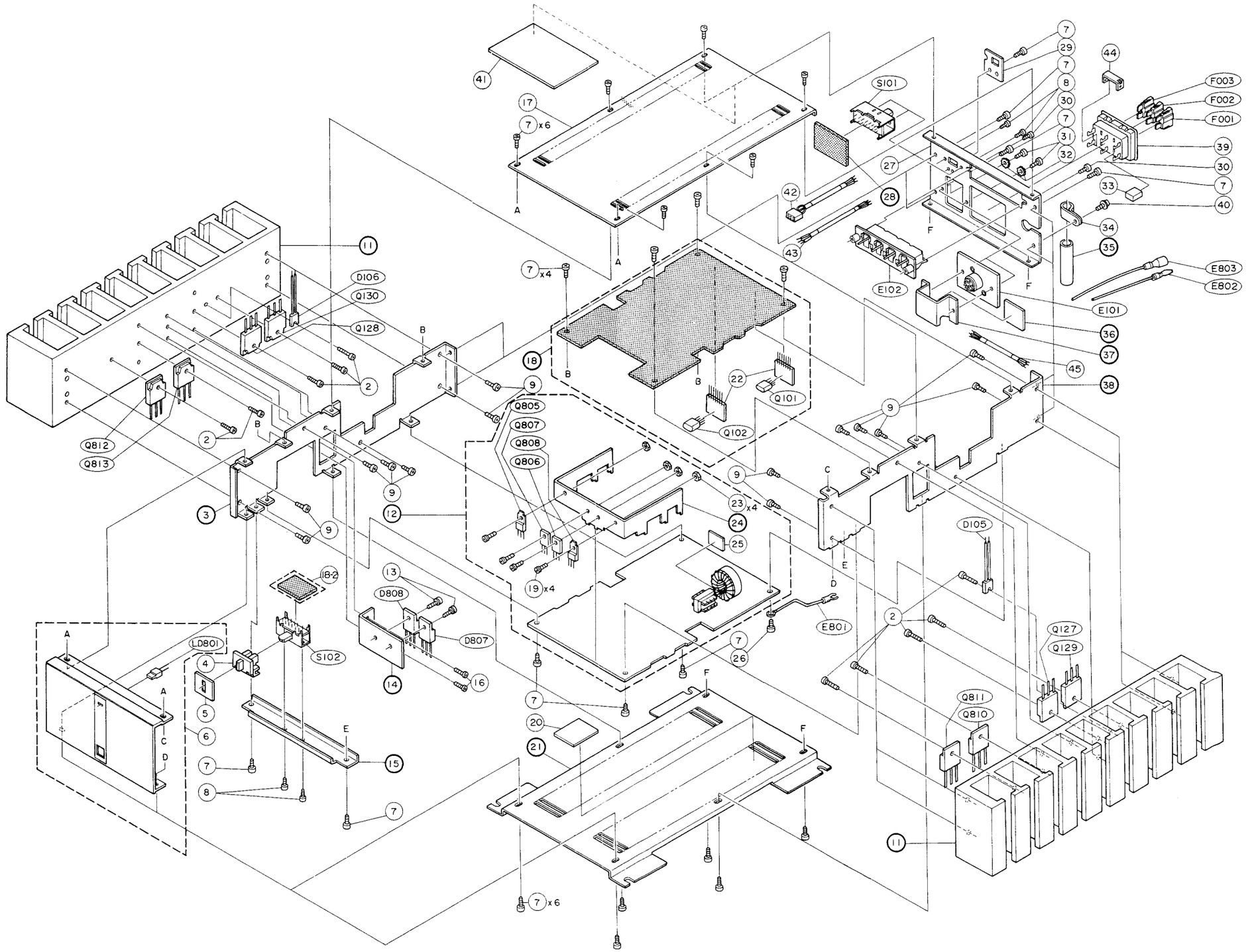
Symbol No.	Part No.	Description
R811	06S44593P25	22 ohm 1/4W
R812	06S44593P25	22 ohm 1/4W
R813	06S44594P04	39k ohm 1/4W
R814	06C44652G26	10 ohm Metal 1W
R815	06C44652G43	82 ohm Metal 1W
R816	06C43205J31	100 ohm Metal 1/2W
R817	06C44652G22	1 ohm Metal 1W
R818	06C44652G22	1 ohm Metal 1W
R819	06C44652G22	1 ohm Metal 1W
R820	06C44652G22	1 ohm Metal 1W
R821	06T60132F01	10 ohm Cement 5W
R822	06S44593P79	3.9k ohm 1/4W
R823	06S44593P71	1.8k ohm 1/4W
R824	06S44593P71	1.8k ohm 1/4W
R825	06S44593P89	10k ohm 1/4W
R826	06S44593P41	100 ohm 1/4W
R827	06C44652G05	3.9 ohm Metal 1W
R828	06C44652G05	3.9 ohm Metal 1W

Miscellaneous Parts

Q101	48T62392F01	FET, 2SK194
Q102	48T62392F01	FET, 2SK194
Q127	48T53303F03	Transistor, 2SC2581
Q128	48T53303F03	Transistor, 2SC2581
Q129	48T53304F03	Transistor, 2SA1106
Q130	48T53304F03	Transistor, 2SA1106
Q805	48T58614F01	Transistor, 2SD1406
or	48T55875F01	Transistor, 2SD1265
Q806	48T52979F01	Transistor, 2SD600
Q807	48T52979F01	Transistor, 2SD600
Q808	48T58614F01	Transistor, 2SD1406
or	48T55875F01	Transistor, 2SD1265
Q810	48T61467F01	Transistor, 2SD1049
Q811	48T61467F01	Transistor, 2SD1049
Q812	48T61467F01	Transistor, 2SD1049
Q813	48T61467F01	Transistor, 2SD1049
D105	48T53389F01	Varistor STV-2H
D106	48T53389F01	Varistor STV-2H
D807	48T61597F01	Diode, CTG-22S
D808	48T61597F02	Diode, CTG-22R
E101	09T58603F01	Socket, DIN 8P
E102	29T61596F01	Speaker Terminal, 4-pin

Symbol No.	Part No.	Description
E801	30T61595F01	Lead, Ground
E802	30T61594F01	Lead, Battery
E803	30T58634F01	Lead, Ignition
F001	65T58596F08	Fuse, Auto 30A
F002	65T58596F01	Fuse, Auto 3A
F003	65T58596F01	Fuse, Auto 3A
LD801	48T58601F01	LED, (Red) SLP151B (POWER)
S101	40T61593F01	Switch, Slide SSP043 (BTL Sw.)
S102	40T58613F01	Switch, Slide SSB34204 (Sensitivity Sw.)

Exploded View



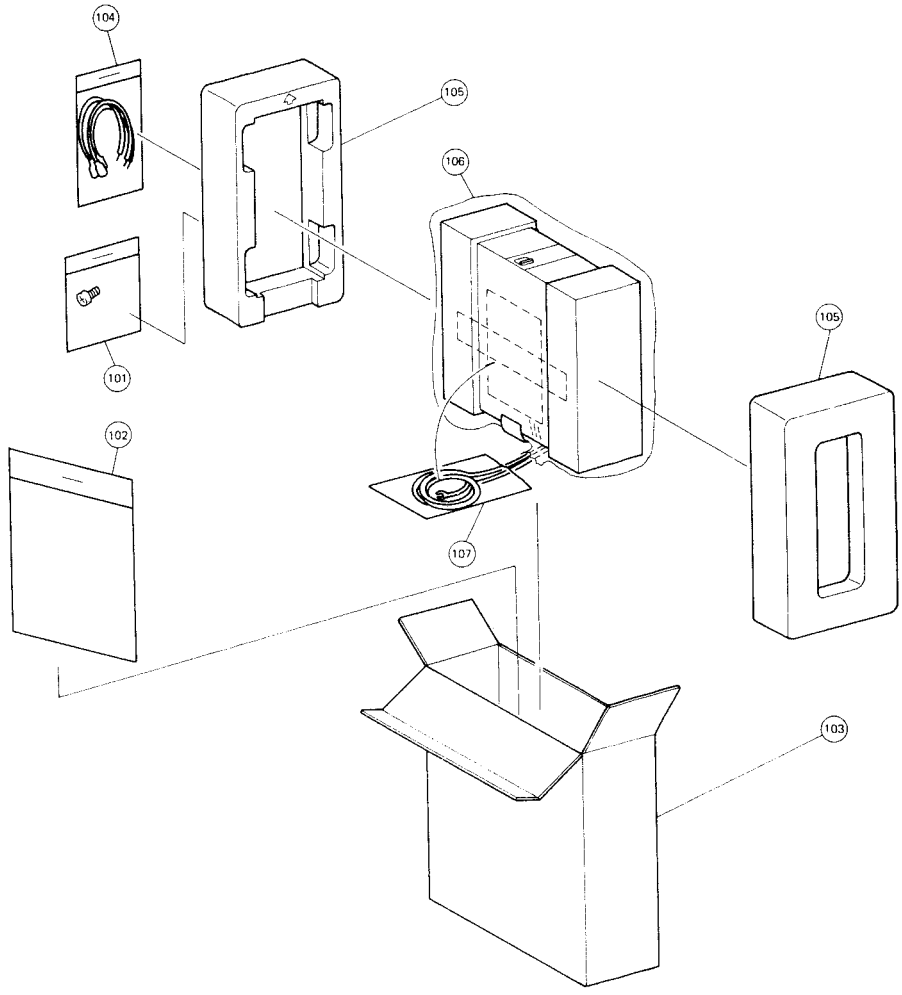
Mechanical Parts List

The alphanumeric codes suffixed to the numeric symbol numbers in the parts list identify the location codes of the respective components in the exploded views.

Symbol No.	Part No.	Description
	General Assembly Parts	
2	03C40121T13	Screw, w/Washer (Blk) (M3x10)
3 4B	*	Chassis, Side
4 5B	36B60123F01	Knob, Sensitivity
5 5B	14A60697F01	Cover, Knob
6 5B	01V63100F57	Assy, Front Panel
7	03S44205G38	Screw, Bind (Blk) (M3x6)
8	03S44205G41	Screw, Pan (Blk) (M2.6x4)
9	03S43997P76	Screw, Bind (Blk) (M3x6)
11	*	Heat Sink, Main
12 4C	*	Assy, Power Supply P.C.B.
13 4C	03C40014G24	Screw, w/Washer (M3x10)
14 5C	*	Heat Sink "D"
15 5C	*	Bracket, Switch
16	03S43997P41	Screw, Pan (Blk) (M3x8)
17 2D	15B61304F01	Cover, Top
18 3D	*	Assy., Amp P.C.B.
19 4D	03C40014G10	Screw, w/Washer (M3x8)
20 5D	*	Insulator, Cover
21 5D	*	Cover, Bottom
22 3E	84B63093F01	P.C.B., FET
23 4E	02S40000G12	Nut, Hex. (M3)
24 4E	*	Plate, Earth
25 4E	14S53017F12	Insulator, (15x7.5)
26 5E	03S44205G55	Screw, Pan (M3x6)
27 2F	15B61305F01	Cover, Rear
28 2F	*	P.C.B., Switch
29 1G	33A61619F01	Fitting Plate, Switch
30	03S40012G41	Screw, Pan (Blk) (M3x8)
31 2G	03S44205G57	Screw, Bind (M4x8)
32 2G	04S40072G20	Washer, Tooth Lock (M3)
33 2G	75S62361F02	Cushion, Rubber
34 2G	42B41424G05	Clamp, Cord
35 2G	*	Tube, Vinyl (60 mm)
36 3G	*	Insulator, Cover
37 3G	*	Bracket, DIN Jack
38 3G	*	Chassis, Side
39 2H	09T58597F01	Holder, Auto Fuse 3P
40 2H	03S40036U02	Screw, Pan (M3x8)
41 1D	26A63406F01	Panel, Shield
42 2F	01T62058F01	Connector, Shield
43 2F	30S57447F08	Wire, Shield
44 1G	07A63405F01	Bracket, Fuse
45 3G	30S57447F07	Wire, Shield

* not supplied

Packing Method View



Packing Parts List

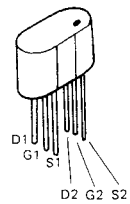
Symbol No.	Part No.	Description
Assembly Packing Parts		
101	01V63100F64	Assy., Kit Installation
101-1	*	Sack, Polyethylene
101-2	*	Screw, Tapping (M4x12)
101-3	*	Fuse, Auto 3A
101-4	*	Fuse, Auto 30A
Δ102	01V63100F65	Assy., Pamphlet
102-1	*	Owner's Manual
102-2	*	Sack, Polyethylene
102-3	*	Business Reply Card
102-4	*	Limited Warranty
102-5	*	Service Facilities
102-6	*	Combination Chart
102-7	*	Card, Note

Symbol No.	Part No.	Description
▲102	68P60806F38	Owner's Manual
Δ103	56S60227F14	Carton, Packing (Ind.)
▲103	56S60227F27	Carton, Packing (Ind.)
104	01T61620F01	Assy., Kit, Wire
105	56D61606F01	Tray, Packing
106	56B40990T06	Sack, Polyethylene
107	56B40230G04	Sack, Polyethylene
Labels		
	54S60911F17	Label, Composite (Bottom, Cover)
	54B42124G01	Label (Bottom, Cover)
	54B42124G01	Label (Carton, Ind.)

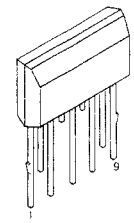
* not supplied
▲ For general overseas version only
Δ For North American version only

Semiconductors Lead Identifications

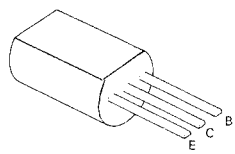
(2SK194) Q101, Q102



(μPA74V) Q103, Q104
(μPA75V) Q105, Q106

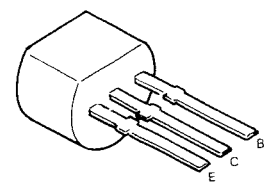


(2SC2705) Q107, Q108, Q115, Q116
(2SA1145) Q113, Q114
(2SA949) Q809

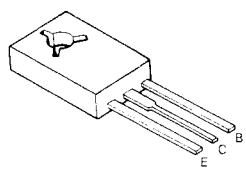


(2SA733), (2SA1015) Q111, Q112, Q125, Q126, Q134

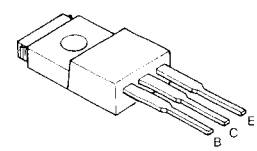
(2SC1815), (2SC945) Q109, Q110, Q117, Q118, Q123, Q124, Q131–Q133, Q135, Q136, Q802–Q804, Q814



(2SC2824) Q119, Q120
(2SA1184) Q121, Q122



(2SD1406), (2SD1265) Q805, Q808



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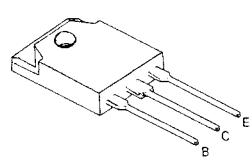
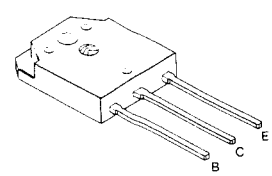
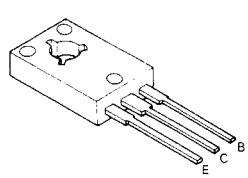
(2SA1106) Q129, Q130



(2SD1049) Q810, Q811, Q812, Q813



(2SD600) Q806, Q807
(2SB631) Q801



Schematic Diagram

Transistor	Q105 Q103 Q101 Q107 Q109 Q106 Q131 Q104 Q102 Q108 Q110 Q111 Q113 Q112 Q114 Q115 Q117 Q132 Q133 Q134 Q116 Q118
Diode	ZD101 D115 ZD102 LD101 D101 D105 D103 LD102 D106 D102 D104

GROUND LEAD E801
BATTERY LEAD E802
IGNITION LEAD E803
30A F001
3A F002
3A F003

E101

BTL SW. P.C.B.
MONO R
STEREO
MONO L
BTL SW. S101

SENSITIVITY SW. P.C.B.
SENSITIVITY SW.
HIGH
LOW
S102

NOTE:
UNLESS OTHERWISE SPECIFIED,
1. ALL RESISTANCE VALUES ARE IN OHMS K=1,000 M=1,000,000
2. ALL RESISTORS ARE RATED AT 1/4 WATT, 5%
3. ALL CAPACITANCE VALUES ARE IN MICRO-FARAD (μF) P=10 ^μF
4. ALL CAPACITORS ARE RATED AT 500WV

E101

	DIN CONN. 8P
1	OPEN
2	SIGNAL GND
3	+B (REMOTE)
4	RIGHT INPUT
5	LEFT INPUT
6	+B (BATTERY)
7	+B (ACC)
8	CHASSIS GND

MAIN AMP. P.C.B.
DIFFERENTAL AMP
CURRENT SOURCE
CURRENT MIRROR
PRE DRIVER AMP
INPUT SENSITIVITY CONTROL
RL101 G2V-1005B

Q105 Q111 Q119
Q103 Q113 Q115 Q117 Q123 Q127
Q101 Q107 Q109 Q132 Q125 Q129
Q106 Q131 Q112 Q133 Q134 Q121 Q135 Q136
Q104 Q114 Q116 Q118 Q120 Q124 Q128
Q102 Q108 Q110 Q122 Q126 Q130

LD101 D107 D111
ZD101 D101 D105 D109 D113
D115 D103 D116
LD102 D106 D108 D112
ZD102 D102 D110 D114
D104

D801 D802 ZD801
ZD802 ZD803
D804 ZD804 D803
D805 D806
D807
D809 D808 LD801

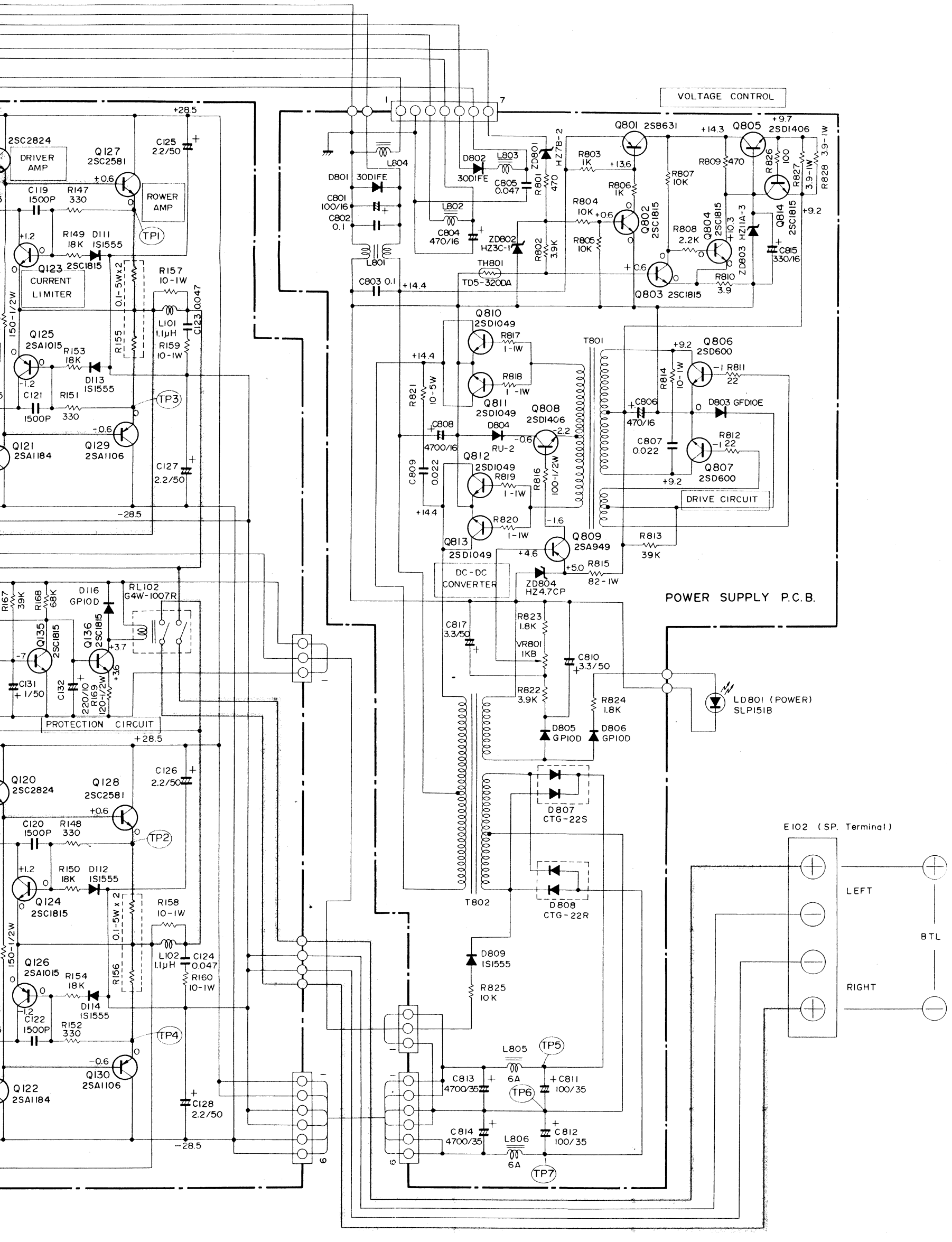
Q801 Q805
Q810 Q802 Q814
Q811 Q808 Q803 Q804
Q812 Q809 Q806
Q813 Q807

VOLTAGE CONTROL

POWER SUPPLY P.C.

D E F G H I J

Q123	Q127		Q810	Q801	Q805
Q125	Q129		Q811 Q808	Q802	Q814
Q135	Q136		Q812 Q809	Q803 Q804	
Q124	Q128		Q813	Q806	
Q126	Q130			Q807	
D107	D111	D801	D802 ZD801		
D109	D113		ZD802		ZD803
	D116		D804 ZD804		D803
D108	D112		D805 D806		
D110	D114		D807		
			D809 D808		LD801



F G H I J K